STATISTICAL METHODS FOR POPULATION PROJECTIONS

STATISTICAL METHODS FOR POPULATION PROJECTIONS. Competing Renewal (2017-2022) funded by NICHD. Adrian Raftery, PI.

The United Nations publishes updated estimates and projections of the populations of all the world's countries, broken down by age and sex. These are widely used by international organizations, governments, the private sector and researchers, for example for climate modeling and for assessing progress towards the Sustainable Development Goals. The UN's previous projections were deterministic, and under the previous grant, we developed a fully probabilistic projection methodology, which was adopted by the UN for its official projections for all countries in 2015. The new projections changed the understanding of the outlook for population, indicating that stabilization of world population is unlikely this century, largely because of the slowdown in fertility decline in high-fertility countries. We will improve our methodology by taking account of generalized HIV/AIDS epidemics. We will also develop new methods that account for the evolution of smoking, a major factor for mortality. Our methods are based on estimates of past population and vital rates, but these have measurement error, particularly in the more than half of countries without good vital registration system. We will extend our methods to take account of measurement error in estimating past fertility rates. We will also assess the possible effects on fertility of major policy initiatives focused on child survival, girl's education, family planning and the status of women in high fertility countries. We will produce publicly available software for implementing our new methods. We will also conduct training courses and continue to maintain an email list for users of the methods.

People Involved: Adrian Raftery
Status of Research: Ongoing
Research Type: Projects and Grants
Related Fields: Demography, Population, Statistics

Department of Sociology · University of Washington · 211 Savery Hall, Box 353340 · Seattle, WA 98195-3340
Main Office: (206) 543-5882 · Student Services: (206) 543-5396 · Fax (206) 543-2516 · Email: uwsoc@uw.edu

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